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RESEARCH COUNCIL OF ALBERTA

Information Series No. 31

ALBERTA MOTOR GASOLINE SURVEY FOR 1960

by
J. S. Charlesworth, M. Rowbotham, and G. Stott

RESEARCH COUNCIL OF ALBERTA
87th Avenue and 114th Street
1960

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ALBERTA MOTOR GASOLINE SURVEY FOR 1958

In 1939 at the request of the Provincial Government, the Research Council of Alberta made a study of the quality of motor gasoline sold in the Province of Alberta. The results obtained from this survey were later used as the basis for establishing Alberta Standard Specifications for motor gasoline. These specifications were published as Regulations under amendments to the Fuel Oil Licensing Act of 1936 and became effective in the spring of 1941.

During the war years from 1942 to 1945 the Alberta specifications were rendered non-active since the quality of gasoline for the whole of Canada came under the jurisdiction of the Dominion Oil Controller. Following the war the Alberta Government regulations again came into effect. They have been revised from time to time in order to keep them in line with consumer needs and modern refinery practice.

During 1955 the Canadian Government Specifications for gasoline were amended. Recognizing that there had been an industrial shift from the motor to the research method of determining octane numbers, the major change made was to specify octane numbers by the research test procedure and new specification values were established accordingly. No corresponding change was made in the Alberta Government Specifications at that time; however, one test engine at the Research Council was immediately converted to the research test procedure. Octane ratings have been made by both test methods in the Research Council since that time.

In 1957 it was decided that the Alberta specifications should be similarly revised and brought into line with those of the Canadian Government. These revisions became effective May 7, 1958. In addition to the change in octane ratings, a few other minor changes were also made. Attached as an appendix to this report is a copy of the current (1958) Alberta Standards for Gasoline as listed under the Regulations of the Fuel Oil Licensing Act.

From 1939 to 1956 the study of gasoline quality was maintained by systematic surveys, the samples of gasoline for test purposes being purchased at regular retail outlets and at regular retail prices. The information obtained from these surveys has been published as Research Council of Alberta Mimeographed Circulars*. Following completion of the 1954 survey it was decided that no further annual studies would be required unless warranted by special circumstances. No survey was made in 1955.

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* R.C.A. Mimeographed Circulars Nos. 2, 4, 8, 9, 11, 14, 16, 19, 21 and 27 represent Alberta Motor Gasoline Surveys, 1939 to 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1956 and 1958 respectively.

During the latter part of 1955 and early in 1956 reports were constantly being received of a marked increase in octane ratings - both research and motor. It was decided, therefore, to review again the Alberta situation in 1956. The reports of much higher octane ratings were proven correct by this survey. While previous data indicated that this trend started in 1949, it was evident that the greatest increase had taken place since 1954. Reports of further increases had continued since 1956, and with revisions in the Alberta specifications imminent it was decided to again review the situation in 1958. As was the case in 1956, the 1958 data showed a further marked increase in octane ratings. However, the increase was not as great as that shown for the previous two years.

The Alberta Specifications for Gasoline provide for the classification of samples into four groups, namely, Premium grade, Regular grade, and for each of the foregoing, Summer grade and Winter grade. Since the quality of Winter gasolines had not been surveyed since 1954, both Winter and Summer gasolines were included in the 1958 survey. Similarly, the report for 1960 provides, in summary form, information on the general quality level of Alberta gasolines as of January (winter) and June (summer) of 1960. Comparison data from previous reports are also included. As in the 1953, 1954, 1956 and 1958 surveys, sampling was confined largely to the cities of Calgary and Edmonton although a few samples were obtained from other locations in the Province.

Test data in this report are based on the latest standard test procedures of the American Society for Testing Materials (A.S.T.M.). They are as follows: Octane number, A.S.T.M. method D-357 and A.S.T.M. method D-908; Tetraethyl lead, A.S.T.M. method D-526; Reid vapour pressure, A.S.T.M. method D-323; Gravity at 60° Fahrenheit in degrees A.P.I., A.S.T.M. method D-287; Distillation range in degrees Fahrenheit on a basis of percentage evaporated, A.S.T.M. method D-86; Sulphur content, A.S.T.M. method D-90; Gum content, A.S.T.M. method D-381; Corrosion, A.S.T.M. method D-130.

Tables I and II list the average, the maximum, and the minimum values obtained for each test for both Premium and Regular grades of Winter and Summer gasolines respectively. For comparative purposes the Alberta specification limits are also shown.

Tables III, IV, V, and VI list, for comparative purposes, the 1960 data and similar data from previous years.

Table VII lists the total number of samples which failed on each specification test in the complete survey. All failures were of a minor nature and not of sufficient magnitude to condemn the product.

Table VIII lists the data for northern and for southern Alberta, averaged separately.

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Table IX lists the companies whose products were included in the 1960 survey.

Figure I shows, in graphical form, the variations in octane ratings from 1940 to 1960.

Table VIII shows that on the basis of research octane ratings, no significant difference exists between gasolines from northern and southern Alberta. However, motor octane ratings are slightly higher for the Premium grade gasolines in southern Alberta. It is evident, too, that a larger quantity of tetraethyl lead is required in southern Alberta to maintain comparable research ratings with northern Alberta. Minor differences may also be noticed in the distillation ranges and gravity.

Two points of particular interest to be noted from a comparison of the 1960 data with the 1958 data are:

1. The rapid and almost steady increase in octane ratings evident since 1949 was not continued over the last two years.

2. The volatility of gasolines has increased. This is evident in the higher average values for vapour pressure, the number of failures on the vapour pressure test, and the lower temperatures for the distillation ranges.

Table I. Summary of Analytical Data Winter Gasolines – January 1960

	Premium Grade Gasoline Spec.	(Number of Samples 33) Ave.	 Max.	 Min.	Regular Grade Gasoline Spec.	(Number of Samples 34) Ave.	 Max.	 Min.
Octane Number:								
Research	Min. 88	95.9	97.0	94.3	Min. 82	89.6	91.5	84.1
Motor		86.9	89.5	85.2		81.8	83.7	80.3
Tetraethyl Lead	Max. 3.6	3.13	3.66	2.02	Max. 3.6	2.03	3.61	0.41
Vapour Pressure	Max. 13	12.4	14.0	10.7	Max. 13	12.4	14.0	10.4
Gravity		60.9	64.7	57.1		64.7	71.2	58.7
Distillation Range:								
I.B.P.		86	97	77		86	96	79
10%	Max. 130	110	129	95	Max. 130	108	120	98
50%	Max. 255	212	244	185	Max. 255	199	235	174
90%	Max. 370	319	340	300	Max. 370	318	355	264
E.P.		394	431	355		386	476	313
Sulphur	Max. 0.15	0.04	0.09	0.02	Max. 0.15	0.05	0.08	0.03
Gum	Max. 7	2.3	5.0	0.8	Max. 7	1.2	5.0	0.2
Corrosion	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Colour	Red	Red	Red	Red		Yellow	Yellow	Yellow

Table II. Summary of Analytical Data Summer Gasolines - July 1960

	Premium Grade Gasoline				Regular Grade Gasoline			
	Spec.	Ave.	Max.	Min.	Spec.	Ave.	Max.	Min.
	(Number of Samples 33)				(Number of Samples 33)			
Octane Number:								
Research	Min. 88	95.9	97.0	95.1	Min. 82	90.1	91.6	88.7
Motor		86.2	89.5	84.8		82.5	86.3	80.5
Tetraethyl Lead	Max. 3.6	2.94	3.84	1.04	Max. 3.6	2.33	4.80	0.96
Vapour Pressure	Max. 10	9.6	11.3	8.1	Max. 10	9.6	11.0	8.5
Gravity		58.8	65.8	54.2		61.9	66.2	56.8
Distillation Range:								
I.B.P.		94	100	88		93	98	86
10%	Max. 155	125	140	116	Max. 155	123	129	114
50%	Max. 255	218	239	150	Max. 255	215	232	199
90%	Max. 370	320	348	300	Max. 370	328	355	296
E.P.		394	433	366		393	412	363
Sulphur	Max. 0.15	0.04	0.09	0.02	Max. 0.15	0.05	0.10	0.02
Gum	Max. 7	2.0	5.6	0.4	Max. 7	1.6	5.4	0.4
Corrosion	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Colour	Red	Red	Red	Red		Yellow	Yellow	Yellow

Table III. Average Analysis of Winter Gasolines Premium Grade 1940 - 1960

Year	Octane Number		Lead	Vapour Pressure	Gravity	Distillation Range, °F.					Sulphur	Gum
	Research	Motor				I.B.P.	10%	50%	90%	E.P.		
1940		78.3		10.5	63.3	91	127	229	342	389	0.06	2.0
1942		75.6		10.6			131	240	340		0.04	2.2
1943		76.3		9.9			130	239	353		0.06	1.3
1944		75.4		9.2			131	251	364		0.04	1.4
1945		73.9		9.4	60.4	90	124	244	356	408	0.06	2.8
1946		77.1		9.1	62.0	93	125	223	343	397	0.05	2.8
1947		76.1	1.96	9.9	62.8	89	120	230	335	388	0.05	2.3
1948		77.3	2.98	9.8	62.0	94	128	235	339	391	0.06	2.6
1949		77.1	2.95	10.1	62.0	88	120	229	335	393	0.06	2.8
1950		76.0	2.27	10.2	62.2	95	123	227	338	395	0.05	1.7
1951		77.0	2.41	10.5	63.1	89	120	227	341	398	0.06	1.4
1952		78.0	2.46	10.6	62.1	98	123	223	338	390	0.06	1.5
1953		80.3	1.35	10.5	61.6	96	122	220	339	403	0.05	1.7
1954		80.4		10.7	61.5	93	119	227	338	395	0.06	1.4
1958	94.7	85.6	2.78	11.4	60.9	94	117	217	324	390	0.04	1.9
1960	95.9	86.9	3.13	12.4	60.9	86	110	212	319	394	0.04	2.3

Table IV. Average Analysis of Summer Gasolines Premium Grade 1940 - 1960

Year	Octane Number		Lead	Vapour Pressure	Gravity	Distillation Range, °F.					Sulphur	Gum
	Research	Motor				I.B.P.	10%	50%	90%	E.P.		
1940		77.4		8.5	60.0	101	139	245	350	400	0.05	0.9
1941		76.6		8.5	60.3	92	133	246	354	403	0.05	1.7
1942		76.2		8.8			142	247	350		0.04	1.3
1943		77.0		8.5			138	248	357		0.07	2.2
1944		75.3		9.1			131	249	367		0.07	3.6
1945		74.1		7.1	59.6	98	138	241	352	401	0.04	3.4
1946		77.2		8.7	61.8	94	128	232	338	392	0.06	3.9
1947		75.9	2.70	7.7	60.4	96	137	238	341	396	0.06	2.7
1948		77.5	3.13	8.5	60.6	98	133	236	339	391	0.06	3.9
1949		75.6	2.35	8.6	60.3	95	133	235	341	401	0.05	4.7
1950		76.9	2.76	8.5	60.8	96	131	233	344	400	0.06	2.9
1951		77.0	2.29	9.0	61.0	98	133	230	342	397	0.06	2.4
1952		78.8	2.81	8.6	60.4	101	132	234	343	396	0.07	2.4
1953		79.6	2.27	8.9	60.7	92	126	227	340	392	0.05	1.1
1954		79.9		9.2	60.7	96	127	227	325	398	0.06	2.9
1956	92.1	84.3	2.74	9.4	61.5	98	127	223	323	385	0.04	2.3
1958	96.1	87.0	3.20	9.2	58.1	100	125	220	327	387	0.04	2.7
1960	95.9	86.2	2.94	9.6	58.8	94	125	218	320	394	0.04	2.0

Table V. Average Analysis of Winter Gasolines Regular Grade 1940 - 1960

Year	Octane Number		Lead	Vapour Pressure	Gravity	Distillation Range, °F.					Sulphur	Gum
	Research	Motor				I.B.P.	10%	50%	90%	E.P.		
1940		71.2		10.3	62.3	93	131	241	356	401	0.07	1.9
1945		70.2		8.9	60.1	92	127	247	353	408	0.06	3.0
1946		72.0		8.7	60.6	95	131	236	347	400	0.05	3.4
1947		72.9	1.46	9.3	61.4	91	125	238	340	393	0.05	3.5
1948		73.5	1.98	10.1	61.8	93	128	241	339	391	0.06	2.1
1949		73.7	2.35	9.5	60.8	90	128	244	336	391	0.05	2.8
1950		73.3	1.75	10.5	61.1	94	125	242	346	394	0.05	1.4
1951		74.8	2.15	10.8	62.1	89	118	236	340	394	0.05	1.4
1952		74.7	1.31	10.3	61.7	99	125	230	334	390	0.06	1.1
1953		76.9	1.38	10.3	61.0	97	124	231	338	397	0.04	1.2
1954		77.8		10.8	62.6	93	121	230	332	383	0.05	0.9
1958	88.3	81.7	2.47	11.5	64.4	94	116	207	312	373	0.05	1.3
1960	89.6	81.8	2.03	12.4	64.7	86	108	199	318	386	0.05	1.2

Table VI. Average Analysis of Summer Gasolines Regular Grade 1940 - 1960

Year	Octane Number		Lead	Vapour Pressure	Gravity	Distillation Range, °F.					Sulphur	Gum
	Research	Motor				I.B.P.	10%	50%	90%	E.P.		
1940		69.9		8.7	60.0	100	141	249	360	404	0.06	0.9
1941		70.8		8.1	59.1	92	138	262	362	403	0.06	2.0
1945		69.8		6.9	59.1	98	140	247	355	402	0.04	2.7
1946		72.9		8.3	60.9	96	131	239	342	395	0.05	5.6
1947		72.5	1.63	7.6	60.5	95	137	242	343	397	0.06	4.7
1948		73.9	2.12	8.5	60.3	96	132	247	345	397	0.06	3.4
1949		71.8	1.39	8.6	59.6	93	132	245	346	401	0.05	6.5
1950		74.0	2.22	8.4	60.5	97	133	241	345	398	0.06	2.1
1951		74.1	1.59	8.9	60.8	95	131	236	340	392	0.05	1.6
1952		76.2	2.08	8.3	59.7	100	137	242	345	392	0.06	1.4
1953		76.8	1.78	9.0	60.8	93	128	232	338	389	0.05	1.2
1954		77.7		9.4	62.1	97	130	229	328	386	0.06	1.3
1956	85.9	80.2	2.22	8.8	62.0	95	128	220	318	376	0.05	2.2
1958	89.9	81.9	2.29	9.2	60.8	100	124	218	325	381	0.06	1.2
1960	90.1	82.5	2.33	9.6	61.9	93	123	215	328	393	0.05	1.6

Table VII. Distribution of Failures
Number of Samples Failing Each Specification Test, 1960

	Premium Grade Gasoline				Regular Grade Gasoline			
	Winter		Summer		Winter		Summer	
	North	South	North	South	North	South	North	South
Octane Number:								
Tetraethyl Lead	1	1		6		1	2	2
Vapour Pressure	4	5	7	4	5	4	7	3
Distillation Range:								
10%								
50%								
90%								
Sulphur								
Gum								
Corrosion								
Colour								
Freezing Point					1			

Table VIII. Average Analysis of 1960 Gasolines, Northern and Southern Alberta

	Premium Grade Gasoline				Regular Grade Gasoline			
	Winter		Summer		Winter		Summer	
	North	South	North	South	North	South	North	South
Octane Number:								
Research	95.8	95.9	95.9	95.9	89.2	90.0	90.3	89.9
Motor	86.7	87.4	85.8	86.9	81.3	82.4	82.4	82.7
Tetraethyl Lead	2.97	3.34	2.94	3.52	1.52	2.76	2.00	2.84
Vapour Pressure	12.5	12.3	9.6	9.6	12.6	12.0	9.7	9.5
Gravity	62.3	59.0	58.8	56.7	65.2	64.0	61.5	62.4
Distillation Range:								
I.B.P.	86	88	94	92	85	88	94	92
10%	108	113	125	127	107	110	123	123
50%	206	220	218	229	198	202	215	214
90%	323	314	320	321	320	315	332	323
E.P.	401	385	394	394	390	381	397	387
Sulphur	0.03	0.04	0.04	0.05	0.04	0.06	0.04	0.07
Gum	2.6	1.9	2.0	2.3	1.2	1.1	1.7	1.4
Corrosion	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Colour	Red	Red	Red	Red	Yellow	Yellow	Yellow	Yellow

Table IX. Companies

- Anglo American Exploration Limited.
- British American Oil Co. Limited.
- Canadian Oil Companies.
- Great West Distributors Limited.
- Husky Oil and Refining Limited.
- Imperial Oil Limited.
- North Star Oil Limited.
- Royalite Oil Co. Limited.
- Sanford Oils Limited.
- Simpson - Sears Limited.
- Seventy - Seven Oil Co. Limited.
- Shell Oil Co. of Canada Limited.
- Texaco Canada Limited.
- Wainwright Producers & Refiners Limited.
- Woodwards Limited.

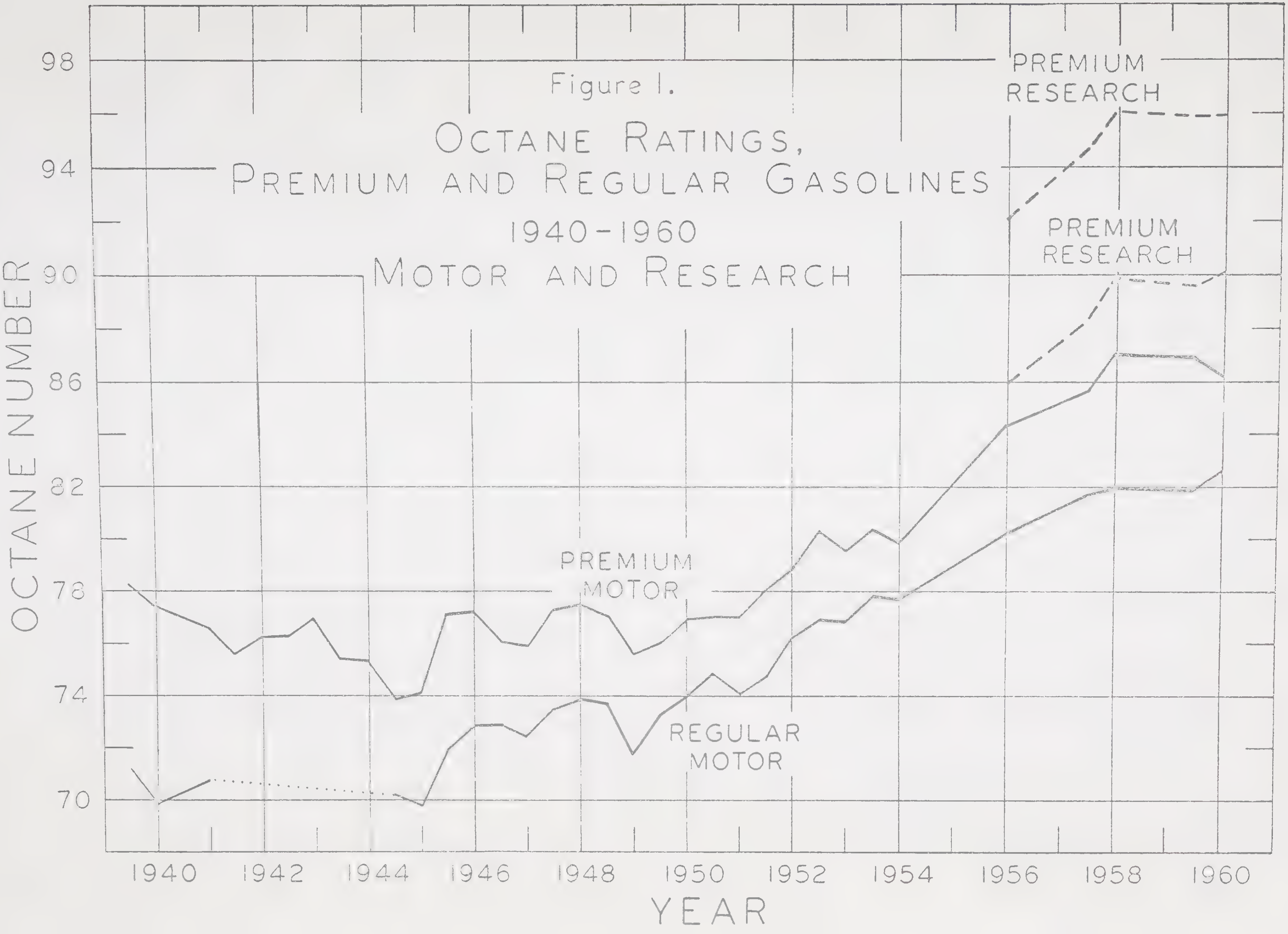

Figure I.

OCTANE RATINGS,
PREMIUM AND REGULAR GASOLINES
1940-1960
MOTOR AND RESEARCH

APPENDIX I

ALBERTA STANDARD SPECIFICATIONS FOR GASOLINE

(Extract from The Alberta Gazette of May 15, 1958)

STANDARDS

30. In this part and the Schedule A attached, unless the context requires a contrary meaning,

(a) "Gasoline" means and includes volatile hydrocarbon fuel suitable for use in the lighter internal combustion engines, requiring a carburant fuel, used in motor vehicles; but does not include material known as aviation fuel, nor the heavier fuels in the classes known as kerosene, engine distillate and other fuels suitable only for use in tractors and heavy engines.

(b) "Minister" means the Minister of Industries and Labour.

(c) "Summer Gasoline" means the gasoline normally sold in the months of May to September (inclusive).

(d) "Winter Gasoline" means the gasoline normally sold in the months of November to March (inclusive).

31.(a) There are hereby established within the Province two grades of gasoline, namely "Premium" and "Regular" in accordance with the standards set out in Schedule A attached hereto.

(b) No gasoline shall be sold or offered for sale as "Premium" gasoline unless the said gasoline complies in every respect with each and every of the specifications for "Premium" gasoline set out in Schedule A attached hereto.

(c) No gasoline shall be sold or offered for sale as "Regular" gasoline unless the said gasoline complies in every respect with each and every of the specifications for "Regular" gasoline set out in Schedule A attached hereto.

(d) No person shall sell or offer for sale by retail any gasoline other than "Premium" or "Regular" gasoline as established by the standards set out in Schedule A attached hereto, or blended gasoline in accordance with section 32 below.

32. No blend of gasoline with benzol and/or alcohol which fails to meet with the requirements of the standard specifications set out in Schedule A shall be sold or offered for sale until the specification for its manufacture has been submitted to and approved by the Minister.

33. Whenever gasoline is sold or offered for sale a plate or sign clearly indicating to the customer the grade of the gasoline sold or offered for sale must be conspicuously displayed on the gasoline pump or other container from which the gasoline is supplied to the customer. The said gasoline grade plates or display signs shall be of a type and design approved by the Minister.

34. Whenever it appears to the satisfaction of the Minister that the wholesale or retail vendor of gasoline has failed to maintain the standard specifications hereby prescribed, the wholesale or retail licence of the vendor, as the case may be, may be suspended or cancelled by the Minister.

35. No gasoline or naphtha which has a Reid vapour pressure exceeding the values set forth in the standard specifications hereby prescribed shall be sold or offered for sale within the Province.

36. All "Premium" gasoline shall be coloured red, and no gasoline other than "Premium" shall be so coloured.

37. All "Regular" gasoline shall be coloured a distinctive colour, other than red. Such distinctive colour shall be registered with and approved by the Minister, and no other gasoline than "Regular" shall be so coloured.

38. "Summer Gasoline" as set out in the said Schedule A is gasoline intended for sale in the months of May to September (inclusive). "Winter Gasoline" as set out in the said Schedule A is gasoline intended for sale in the months of November to March (inclusive).

39. During the periods in which the changes are being made from summer to winter gasoline and the reverse, that is normally during the months of October and April, a gasoline will be regarded as satisfactory if it complies with either the winter or summer specification for its grade.

40. The standard specifications for gasoline as shown in Schedule A may be modified from time to time as found necessary by the Minister but such modifications shall not become effective until ample notification has been given to the operators concerned.

SCHEDULE A

STANDARD SPECIFICATIONS FOR GASOLINE

1. Requirement Specific for Premium Gasoline.

(a) Octane Number: The octane number shall not be less than 88 as determined by the C.F.R. Research Method of A.S.T.M. procedure D-908.

2. Requirement Specific for Regular Gasoline.

(a) Octane Number: The octane number shall not be less than 82 as determined by the C.F.R. Research Method of A.S.T.M. procedure No. D-908.

3. Requirements Common to both Premium and Regular Gasoline.

(a) Appearance: The gasoline shall be clear i.e., free from undissolved water and suspended matter.

(b) Corrosion: The gasoline shall pass the test for corrosion (A.S.T.M. procedure D-130).

(c) Vapour Pressure: The vapour pressure as determined (A.S.T.M. procedure A-323) shall not exceed 10 lbs. for Summer Gasoline and 13 lbs. for Winter Gasoline, except that a vapour pressure one pound greater shall be permitted in each case at the refinery or other point of wholesale delivery.

(d) Sulphur: The total sulphur content as determined (A.S.T.M. procedure D-90) shall not exceed 0.15 per cent by weight.

(e) Gum: The gum content as determined (A.S.T.M. procedure D-381) shall not exceed 7 mg. per 100 ml. In the presence of top cylinder lubricant or solvent oil the modified test procedure of the Canadian Government Specifications Board (C.G.S.B.) method 3-GP-O section 40.2 shall be employed.

(f) Freezing Point: For winter gasolines only: The freezing point of the fuel, as indicated by the initial formation of solid matter, shall not be higher than minus 60°F. (minus 51°C.) The method of determination shall be as in C.G.S.B. specifications 3-GP-1.

(g) Tetraethyl Lead: The tetraethyl lead content as determined (A.S.T.M. procedure D-526) shall not exceed 3.6 ml. per Imperial Gallon.

(h) Distillation Range: The distillation Range shall be as follows:

	Temperature in °F. Summer	 Winter
Not less than 10% of the fuel shall be evaporated at	155	130
Not less than 50% of the fuel shall be evaporated at	255	255
Not less than 90% of the fuel shall be evaporated at	370	370

(1) The distillation range shall be determined by A.S.T.M. procedure D-86.

(2) The phrase used above, "Not less than 10% of the fuel shall be evaporated at 155°F." is equivalent to the phrase "10% of the fuel shall evaporate at a temperature not higher than 155°F."

(3) For the purposes of the distillation specification the volume evaporated at any temperature shall be taken as the volume collected plus the distillation loss as determined at the end of the test.

(4) Distillations may be made at any elevation provided that the observed temperatures are corrected to the temperatures that would presumably have been observed if the distillation had been made at normal barometric pressure at sea level.

(5) The observed distillation temperatures may be corrected for the effect of difference between actual barometric pressure and normal pressure at sea level by means of the corrections in the following table "A".

TABLE "A"

TABLE OF CORRECTIONS FOR DISTILLATION DATA TO ADJUST FOR VARIATIONS OF BAROMETRIC PRESSURE FROM STANDARD (29.92 inches)

Corrections to be added - in Degrees Fahrenheit

Barometric Pressure in Inches of Mercury	Observed Temperatures of Distillation in Degrees Fahrenheit 100 to 149°	 150 to 199°	 200 to 249°	 250 to 299°	 300 to 349°	 350 to 399°
25.60 to 25.79	8	8	9	9	10	11
25.80 to 25.99	7	8	8	9	10	10
26.00 to 26.19	7	7	8	9	9	10
26.20 to 26.39	6	7	8	8	9	9
26.40 to 26.59	6	7	7	8	8	9
26.60 to 26.79	6	6	7	7	8	8
26.80 to 26.99	5	6	6	7	7	8
27.00 to 27.19	5	5	6	6	7	7
27.20 to 27.39	5	5	5	6	6	7
27.40 to 27.59	4	5	5	5	6	6
27.60 to 27.79	4	4	5	5	5	6
27.80 to 27.99	4	4	4	5	5	5
28.00 to 28.19	3	4	4	4	4	5
28.20 to 28.39	3	3	3	4	4	4
28.40 to 28.59	3	3	3	3	3	4
28.60 to 28.79	2	2	3	3	3	3
28.80 to 28.99	2	2	2	2	2	3

4. The tests to be made under the foregoing specifications shall be made on the gasoline as sold, and shall, unless otherwise specified therein be made in accordance with the current procedures for such tests adopted, or tentatively adopted by the American Society for Testing Materials (A.S.T.M.) or by the Canadian Government Specifications Board (C.G.S.B.) respectively, or modification of such tests where said modification is introduced for convenience and does not affect the results obtained.

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